"Dedicated to Public Service"

THE RADIATOR

Golden Empire Amateur Radio Society, Inc.

W6RHC
IRL #8170
Echolink #322788

http;//www.gearsw6rhc.org P.O.Box 508 Chico, CA 95927-0508

Founded: August 13 1939 75 YEARS December 2014

Coming Events

O.A.R.S. GENERAL MEETING
Second Friday, every month, at 7:00 p.m., at St. Paul's Church Parrish Hall, 1430 Pine St., Oroville

G.A.R.S. Second Wednesday, each month, General Meeting, Lutheran Church Hall, Artois; 7:00

G.E.A.R.S General Meeting, third Friday each month, at Butte County Search and Rescue Building, Chico. Doors open at 6:30 p.m.

Butte A.R.E.S. MEET: fourth Friday, monthly, at Butte County Search and Rescue Building.

FCC EXAMS - GEARS VEC
First Sunday of every even numbered month.
At the Butte County Search and Rescue Building,. Written test at 2:00 p.m. For information or pre-registration call Tom Rider-W6JS, (530) 893-9211.

Club Events:
News and items of interest
GEARS Calendar...all inside.

Website: www. gearsw6rhc.org

Picture courtesy EVARC

It's already December---where has the year gone??? This will be a short letter; I'm still at a disadvantage computer-wise and don't really have a lot on my mind this month. Hopefully the eye surgeon will be doing the operation soon to correct the torn macula in my left eye and I will be good to go again. Makes for problems with repair jobs when you have weird field of vision shifts. Watch out for me when I've got a soldering gun in hand!!!

December is election month. Unless someone volunteers at this month's meeting, our slate of officers will be elected by acclaim. The one change will be that Lester will be stepping down as Treasurer (he has been travelling such a long distance to attend meetings) and Rick Hubbard will be taking that office. Rick has seen service as a club treasurer before and assures me that the arm I twisted to get him to run will be fine by next year. It should be an easier job with the new laptop configured to a bookkeeping program.

There is no business meeting in December: just the election and then our DESSERT BUFFET. Bring something yummy for yourself and a few others to share. Oh YES, you might want to bring something for the gift exchange, just something a ham would enjoy, not too costly ($10 price range) and sometimes gag gifts are fun too. I plan on visiting that store on Mangrove-"AS SEEN ON TV" or Grandpa's attic or whatever. That's my column for this month. Until the meeting, remember that your antenna guy wires can do damage to Santa's reindeer and vice versa.

Anna KG6ZOA, President

MINUTES OF GENERAL MEETING for Nov 21, 2014

PROGRAM: Impromptu

ATTENDANCE: Vice president and treasurer not present.

VEC: None.

TREASURER:
The Treasurer report: Income $188.00; Expenses $182.46; Ending Balance on Hand $3,650.

The report was approved.

MINUTES: Approved the minutes from Oct meeting.

OLD BUSINESS:

Candidates for next year are President Anna Horn, vice president Scott Peterson, Secretary Dale Anderson, Treasurer Rick Hubbard, for board members Tom Rider, Steven Wolske, Steve McDermott.

NEW BUSINESS:

Christmas party, bring a dessert and for those who wish to bring a gift for exchange, about $10 maximum.

ADJOURNMENT: 20:11 hr.

Dale Anderson,
Secretary

Board of Directors Meeting: Nov 21, 2014

ATTENDANCE: Vice president and treasurer not present.

OLD BUSINESS:

Repeater: New repeater from Yaesu is $500 normally its $1600. The board agreed to buy the new Yaesu DR-1X to replace are old repeater which is 30 years old.

NEW BUSINESS:

Obtaining a security box for club documents like deeds and insurance. Gene will check into getting a large security box at our bank.

Club historian. Looking to creating a club historian to assemble a historical archive.

Gene Rolls life time member ship for the use of his property for our transmitters over the years.

The cost of hats and badge's have gone up.

MEMBERSHIP APPLICATIONS:

Renewals:	New Members:
Gene Wright	None
Scott Roberts	
Klaus Keil	
Tim Wells	
Carl Franke	
Jim Matthews	
Ed Everett	
Don Cooper	
Robert Oden	
Don Mathison	
Stan McEtchin	

ADJOURNMENT: 21:07 hr.

Dale Anderson,
Secretary

Steve McDermott –W6AKF–webmaster, Board of Directors and membership Chairman, reporting to members that the Club s website is now fully functioning:

NEW AND IMPROVED GEARS WEBSITE

The new GEARS website is now up and we have retained the original domain name. I have retained all the information from the old webpage and added some things we didn't have. The American Flag, rotating gears, ARES, ARRL, and ARRL Special Services Club logos have been added. One graphic I found was a two meter rig with "146.850" crawling across the radio's display. Unfortunately, I couldn't find a graphic with "440.650" for the 440 repeater. I retained the GEARS blue & gold color on the banner, and a lighter gold color behind each page.

There are eight tabs at the top of the homepage and six of them are pull-downs, meaning there are more links below the tabs. The tabs are: Home, Club Meeting & Events, Club Information, ARRL, GEARS VEC, For Sale, GEARS Nets, Links.

In July the BOD authorized me to seek out a designer. I found one in Paradise. The web design was made by Ed Doyle. He is a retired military and silicon valley computer hardware and software development since 1992.

I made the announcement of the new GEARS page going on line at the meeting on the 21st. It was up and placed online early Saturday morning on the 22nd.

Please visit our new homepage and when you do, create a shortcut on your desk top. To do that, just go to the webpage and place your cursor anywhere on the homepage and press your right side of your mouse. You will then see Create shortcut, hit that. Then you will see a box that says: Do you want to put a shortcut to this website on your desk-top? http://www.gearsw6rhc.org/ Then press: Yes
http://www.gearsw6rhc.org/

GEARS Web Slave
Stephen, W6AKF

KI6VOS—Rick Hubbard, Treasurer Candidate

W6BIN-Dick Wolstenholm; AG7J-John Post:; W6LYX-Don Stanton

Nominee's for 2015 offices:

President: Anna Horn-kg6zoa
Vice Pres: Scott Petersen, ke6vus
Secretary: Dale Anderson-kk6evm
Treasurer: Rick Hubbard-ki6vos

Board of Directors:

Steve McDermott-w6akf
Tom Rider-w6js
Stephen Wolske-kf6hss

Election of Officers is during December meeting, December 19, and is the only order of business for that session.

Nominations from the floor for officers will be accepted. To hold an office one must have been a member of GEARS for one year, and a licensed HAM.
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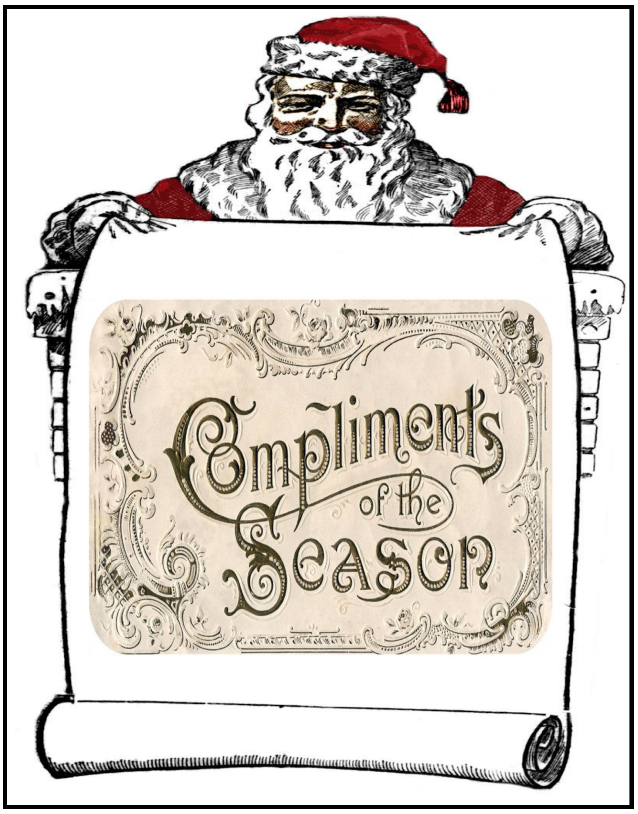
The December meeting is also a "dessert potluck" with members bringing their favorite indulgence to share. A gift exchange is also traditional, where members who wish to participate in the exchange bring a wrapped gift marked as either for a female, male, or "unisex". The gifts should not exceed $10.00 in cost.

YUM!

FUN



Caps embroidered with your name and your call sign may be ordered by contacting WA6ZRT -Gene Telephone #530 -345-3515

VEC TESTING
2:00 p.m.

December 7, 2014
February 2, 2015

AT BUTTE COUNTY SEARCH & RESCUE BUILDING

All Classes
Technician, General and Extra.

Contact: W6JS
Tom Rider
530-893-9211

Meet a Member - W6BIN - Dick Wolstenholm

By: Michael Favor-ki6qzh

Dick Wolstenholm, W6BIN, has been an active Ham for over 62 years, and a member of GEARS for longer than we remember exactly. Although we do know Dick was President of GEARS 25 years ago, during the 50th Anniversary celebration. He's a lively character with an impish grin, and still an active Ham today at age 80.

Dick first got interested in Ham radio in 1951, as a teenager hanging out at the local AM radio station in Fort Bragg, where his buddy was friends with the station engineer. Dick and his friend scrounged up a few spare parts, and built a couple of low-powered bootleg radios that could transmit at the low end of the AM broadcast band.

Dick and his friend packed their AM transmitters inside a couple of portable AM radios, although in the days before transistors, "portable" radios were the size of small suitcases. They took the bootleg radios down to Ten-mile beach for testing, and would walk down the beach in opposite directions to see how far they could get and still be able to talk to each other, using phony call-signs. Dick's made-up license number was W6PDQ.

A short time later, Dick got his first real FCC license at the age of 16, with the help of an active local Ham who was authorized to give the Novice and Technician tests locally. To get his General license, Dick had to ride the bus from Fort Bragg to San Francisco to take the test at the only place you could take it, the Federal Customs House.

In those days everything was CW or AM. Single-sideband had not been invented yet, and voice was only allowed on 160, 10, and 2-meters. And with no 2-meter repeaters, there was not much activity on 2-meters. 40-meters was CW only, and he remembers when 40-meters was opened up for voice. The first evening, he says, "It was bedlam."

You had to pass a Morse Code test at 5 WPM to get a Novice license, and then you had to have a year of experience before you could move up to a General class license, which required passing the Morse code test at 13 words per minute, both sending and receiving.

On the day Dick was taking the Morse code test for his General license, he was given a set of headphones and a pencil and single sheet of paper for the test.

Dick Wolstenholm-continued from page 5

He realized just in the nick of time that the headset had a loose connection. He had to hold the cord steady with one hand while he copied down Morse code with the other. By the time he got to the bottom of the page, the single sheet of paper was sliding all around the table, giving him a heck of a time. But he still managed to pass the test. A year later, he rode the bus from Fort Bragg to San Francisco again to get his Advanced license.

Later when Dick took a class in Ham radio as a college student at Cal Poly, he was so far ahead of the class that the teacher gave him a field-promotion to Teacher's Assistant.

The class had a Morse practice machine that could play back Morse code at different speeds, using holes punched in paper-tape. Dick cranked the machine all the way up to 30 WPM, and was still able to copy the code. He couldn't write that fast, but he could type it on a "Radio Mill", a specialized type-writer used to copy Morse code. It was ALL-CAPS, and had a few extra keys, such as a separate number "1" key, back when regular typewriters used the lower-case "L" as the "1".

Dick remembers when SSB first started coming into use. You could hear this strange "squawking" on the radio. At first, a lot of Hams didn't know what the heck it was, but then somebody would come on using AM and explain how you could tune it in with the BFO that was normally used for CW, even if your radio was not designed for side-band.

In 1964, Dick and a few local airplane pilots (including the author's father, David Favor) formed the North Valley Flying Club, which allowed the club members to split expenses and share ownership in a couple of small airplanes.

Dick learned to fly, and got his pilot's license in a tiny little two-passenger Cessna 140 "tail-dragger". Later he owned two different airplanes of his own. It's been awhile since Dick has had a chance to use his pilots license, but he's been thinking about dusting off his old flying skills and getting back into pilot seat as a "Light-Sport Airplane" pilot.

Dick's career included over 35 years as a technician for the phone company, repairing and maintaining switching equipment at the central office. During his career he saw all of the old electro-magnetic relays replaced with computers, and the long-distance copper wires replaced with fiber optic cables, before he retired in 1990. As a retired gentleman for the last 24 years, Dick says he now lives "a life of leisure", and "enjoys it quite a bit".

(continued on page 7)

Dick was happily married to Betty for 57 years. They raised a son and two daughters. Their son, Ronald, has the call-sign K6BIN, and he hopes someday he can fill his dads W6BIN shoes. Ham radio naturally took a back seat for much of the last few years, as caring for Betty became Dick's top priority. Sadly, Betty passed away in October 2013.

At home, Dick currently has an Icom-746 for HF. He mostly enjoys the 160, 40, 10 and 15-meter bands with a wire antenna. He also likes working mobile HF from his car on long road trips, in addition to 2-meters.

Dick enjoys joining in on the 160-meter net on Monday nights on 1930 KHz, now called the "Willy-net" in honor of the late Willy van de Kamp, who was a GEARS member for many years.

Dick is not really too interested in DX. He enjoys it if he stumbles across it, but he doesn't go looking for it. He's more of a "rag-chewer". However, he does remember one time when he called CQ on 10-meters and got a call back from a guy in Hong Kong. He chatted with the guy for about half an hour. When he signed off, he says, "the whole world piled in and wanted to talk to the guy. I didn't realize he was that rare."

Dick has dabbled in some of the digital modes a little bit in the past; RTTY, PSK31, and slow scan TV, but he really didn't get that much of a kick out it, so these days he pretty much sticks to voice and CW.

For Field Day, Dick uses an Icom IC-735, which he likes because it is relatively compact, along with a 40-meter dipole. He often uses a slingshot to string a wire antenna up between a couple of pine trees. He also built a low-powered QRP radio for CW that he can run off a battery. Sometimes he sets that up just for fun to see what he can get.

When I asked Dick for any suggestions or advice he might have for a new Ham, he said, "Get a radio, and get on the air. If you got the license and never use it, why bother? And learn code, if you can, and get on CW. A lot of people say they can't learn Morse code, but I did it, and if I can do it, anybody can." Morse code used to be something that every Ham had to know. He says "Morse code was the glue that held all of us Hams together."

Dick's closing words of wisdom to me - "Life is short, have fun while you're here."

(continued on page 8)

(Dick Wolstenholm-continued from page 7)

Dick currently shares his home in Chico with Kaliman, a dachshund named after the exotic Mexican comic-book superhero, and a little Chihuahua puppy named Princess. When Dick is not on the radio, he can be reached by email at gears1939@gmail.com.

Author's Note: I joined GEARS recently, and I felt that interviewing a few members might be a fun way for me to get to know everybody, and maybe help club members get to know each other a little better, too. I hope this will be the first of a series of articles about GEARS members, and may become a regular feature in the *Radiator*. --

Michael Favor, N6FAV,
Michaelf@favorsoftware.com.

Thank you Michael for this most excellent bio, and we all look forward to an article on your next victim! [:) Dj

What is Happening with GARS in Glenn County?

December 10, meeting will be a Christmas pot-luck.

The Club has received a donation of $250. to be used for enhancement of the ability of the Club to provide expanded communications. It was decided to use the gift towards the purchase of an auxiliary gas powered generator. Make and model to be determined.

Albert Leyva –N6YCK
President, GARS
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Credit where Credit is Due:

The article titled "Miscellaneous Radio" on pages 9,10,11 is from the Sierra Foothills Amateur Radio Club, October 2014 issue of the "Sierra Signal". The Author is Fred C. Jensen-K6DGW.

(Printed with permission and gratitude.)

4

MISCELLANEOUS RADIO

Seven No-Code Years – How's It Going?

Short answer: "Fine!" It's been seven years since the Morse receiving and sending test was eliminated from all US amateur license examinations [and essentially world-wide too], and that's probably been long enough to re-visit the subject and see how reality played out against all the predictions [dire and otherwise]. 75 meters in the evening has been ham radio's "Hyde Park" for as long as I can remember, and when the FCC proposed eliminating the requirement for Morse proficiency from all license classes, the soap boxes were out in force on "The Medical Band." The predictions and prognostications spanned a very broad spectrum of issues that were predicted to arise, most concluding that it would be "The End of Amateur Radio As We Know It," which I'm going to shorten to just, "The End."

2014 marks my sixty first year as a ham radio operator. My activity levels during those 61 years have waxed and waned as life went on ... very active as a teen, marginally active in college [had an almost full-time job as well as full-time student], moderately active my first year and a half in uniform, QRT for 4 years doing war, and then on the air some – and not -- as we made a family and everyone grew. Retirement heralded a return to my teen years in terms of activity although the equipment [and I] sure had changed.☺ I've seen "The End" predicted multiple times and the removal of Morse proficiency as a requirement for a license has pretty much followed the pattern of all the others.

I began as a Novice at 13 in 1953 when the Novice was brand new, and it was my first encounter with "The End." To say the Novice license was "not real popular" with many of the OT's of the time is akin to suggesting that Bernie Madoff only committed a "small indiscretion." It played out on 75 meters in double sideband AM, if you missed his argument on one sideband, there was always the other sideband.☺ It also played out in print in the letters in CQ and QST, although somehow the written word was not nearly as forceful as the 1KW arguments on 75, where you could actually hear the reverberations of the "clank" of the big antenna relay as he began his predictions of woe.

I don't know the real statistics, and mindful that 87.6% of all people make up their own, I'll equivocate and guess that about half of the Novices were teenagers, nearly all male.[1] The other half were primarily young adults, almost all male too. The ranks of amateurs had been slowly declining. The war had ended, the economic upturn in the 50's had begun, television had arrived, people had jobs, and I guess the lure of wireless was fading some. The Novice gave it a huge shot in the arm, and it wasn't just new people. Heathkit, Knight, Harbey-Wells, and World Radio Laboratories, among others were born. Suddenly there was a new market for receivers, transmitters, parts, tubes, and just about everything "ham-ish, and manufacturers to market them. History tells us that despite the predictions, it was anything but "The End."

At that time, the ham bands were 160 [unusable if you lived on a coast due to LORAN-A], 80/75, 40, 20, 15, 10, 6, and 2 meters to cover the MF, HF, and VHF ranges. 6 meters was right next to TV channel 2, TVI was a problem, and 6 was basically unused. So, in 1956 or so, the FCC permitted Technicians, previously restricted to 220 MHz and up, to use 6 meters. Again, the power companies cashed in as the 1KW soap boxes fired up on 75 meters. There were three primary arguments against this action:

1 "Technicians weren't technically capable of operating "properly" on 6 meters, which often had openings over long distances."

[1] Based on the Check in the ARRL Sweepstakes exchange, I think it was really quite a bit more than half

2 *"6 meters was a General and Extra Class band and Technicians didn't have the code proficiency."*[2]*"*

3 *"It's the start of Technician encroachment ... 6 today, 10 tomorrow, who knows where it will end"*

but it definitely will be "The End."

It didn't turn out that way. Heath came out with a very low cost rock-bound radio called the "Sixer,"[3] and many Technicians flocked to 6. They probably saved 6 meters for us as an allocation [for which they got no credit], and "The End" was postponed to some time in the future.

One change in the mid-60's, while incorrectly predicting "The End" yet again, was a hugely divisive and unproductive effort by ARRL called "Incentive Licensing." From the early 50's p to this point, holding an Extra-class license bought you nothing you couldn't have with a General-class license, except the satisfaction of knowing you passed the exam. I sat for mine as soon as I had 2 years as a General[4] ... just because it was there.

ARRL's Incentive Licensing would do two things:

1 *Create a new, Advanced-class license midway between General and Extra*[5]

2 *Create new sub-bands for both CW and Phone based on license class*

To create the new sub-bands, the proposal took portions of the CW/Data and Phone/Image sub-bands away from the Generals and divided them for the Advanced and Extras. ARRL's rationale for this was to "improve the technical and operating proficiency of the Amateur Corps. It has never been clear to me exactly how that proficiency was lacking, and, if it actually was lacking, how this proposal would change it, and in the end, it was definitely not one of ARRL's finest hours. Extras got their exclusive segment plus all the others, Advanced had theirs [shared with Extras] and the General segments. Generals were banished to their smaller segments, shared with Extras and Advanced, and were understandably incensed.

I was doing war on the other side of the planet at the time, and Incentive Licensing was a brand new, done-deal when I came home at the end of 1967. It was the most divisive, mean-spirited action that I've ever seen in ham radio and in all honesty, I do not remember finding anyone who was in favor of it. Being an Extra, I didn't need to pay attention to the sub-band limits, but I was clearly not welcome in the General and Advanced segments. It was classic grounds for class warfare, and was widely predicted to be "The End."

The Advanced license is gone[6], as are some, but not all of the license-class sub-band segments. If anything could have done-in ham radio, Incentive Licensing would have been a good candidate, but it didn't. I am certain that ARRL lost a slug of members, and I'm certain it has taken a long time to replace them with new folk,[7] but the hobby survived and thrived.

There have been other examples, and as most of you know, I do pay attention to history. When the concept of two classes of Technician [Tech with no code exam and Tech-Plus with a 5 WPM code test] came along, I heard all the soapboxes on 75 set up. "If one class can be no-code, eventually all will be, and it will be 'The End'." I predicted it would be just fine. HT's had come on the scene, it was now easy

[2] Which sort of ignored the fact that Generals and Extras didn't use the band

[3] Anticipating the FCC, they also offered the "Twoer" for 2 meters, and yes, Technicians got part of that band too

[4] 2 years on-air service was required then

[5] The advanced-class license had existed since the 1951 restructuring and could be renewed but no new ones were issued until 1967

[6] Existing ones will be renewed but there haven't been new ones for some time now

[7] You can bet your paycheck the displaced Generals never came back

to get "on the radio," and repeaters gave you a reach. Husband and wife get licenses and now they can talk to each other and coordinate the kids' soccer, Little League, dance and piano lessons, gymnastics, Pop Warner practice, school, and all the other things they never tell you about as you're welcoming that little bundle of joy into your lives.

And I was right. HT sales skyrocketed, sadly most $$ going to Japan but US dealers do get a cut, ham club membership took a big leap, ARES and EMCOMM became familiar acronyms, public service communications for charity events jumped. And what happened for the "traditional hams" on 75 meters or DX'ers on 20? Exactly nothing. Tech Plus got a segment on 10 meters which almost none of them used. Effect on everyone else? Nil ... and "The End" was yet again relegated to the future.

So we went through the slow removal of Morse as a requirement for a license, unfortunately accompanied by some mean-spirited things. Tech-Plus and Techs [i.e "no code Techs"] merged and Techs no longer had to pass a code test. Generals went to 5 WPM, followed by Extras. Now we had Extras [20 WPM] and "Extra-Lites" [5 WPM],... again class-warfare which never results in anything good. And of course, we finally reached that dreaded point in ham radio, "Zero WPM for everyone" It clearly signaled, without doubt, "The End."

Well, seven years have passed and we no longer have to predict the future. History has been written, and it sure doesn't look like "The End" to me. As a requirement for a license ... and it's important to remember, that is **all** this was about ... Morse code is an anachronism, just as requiring the examinee to draw the schematic of a Colpitts oscillator became an anachronism.[8] No one had to give up Morse, and anyone who wanted to could learn and use it, it just wasn't a requirement for a license. And, there is no evidence that fluency in Morse automatically makes anyone a "better ham," whatever that might mean. Ever since the invention of radiotelephone, a fairly large percentage of hams learned the code to get a license and never used it again.

The CW Ops group founded the CW Academy, connecting 4 or 5 aspiring CW Ops with an "Advisor" via a free video conference package, and using a proved method for learning code. They've graduated multiple classes now, and the waiting list for the new "semesters" continues to grow. Summits On The Air came to North America about 4 or 5 years ago and caught on like wildfire. Most of the avid summiteers are younger folk [for obvious reasons], and started out on VHF FM and HF SSB. They have quickly found that 5 watts with a compromised antenna will yield many more QSO's on CW than phone will, and for many, CW is now their preferred and in a number of cases their only mode when activating a summit.

By every measure I can think of, ham radio is far richer in terms of ways to enjoy the hobby with all the people who are part of it now, than when I first began. The increase in that richness has been steady, and "The End" was never, ever, a credible threat. I have however, given up on 75 meters in the evening. ☺

Cal QSO Party is 4-5 Oct, you're the hunted, you don't want to miss it. Exchange is a QSO serial number and your 4-character county abbreviation. Our youngest, now 43 year old bundle of joy, signed us up to ferry granddaughter and fastpitch softball pitcher to SoCal for the weekend and I will not be activating PLAC this year. More info at cqp.org

73,

Fred K6DGW

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[8] That was one of the questions on my Extra exam in early 1956

`Tube of the Month

HV-1 (A tube that sucks)

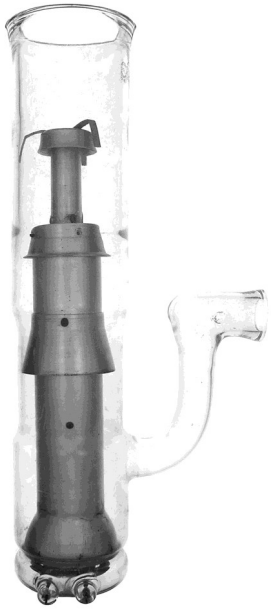
There are vacuum tubes and other devices that require additional vacuum pumping or must be completely pumped down in operation. A transmission electron microscope is like a cathode ray tube where the tube is opened up and the sample to be scanned is placed in the electron beam. The tube is then pumped down before any voltages are applied. A rotary vacuum pump and a series of valves are used to get a vacuum. The microscope I used in college had a bad habit of loosing control of the pump and sucking oil into the valve system. It would take me 3 hours to clean it out. Very large tubes like the high power klystrons have diffusion pumps built into the tube to maintain an adequate vacuum.

In 1942, Eimac developed the HV-1, a diffusion pump that was produced for over 20 years. The HV-1 has a heater element in the base that heats a special oil that is vaporized and rises into the tapered aluminum structure in the middle. It works like that stinky Vicks Vaporizer your mother made you smell as a kid.

The top of the tube has a manifold that is attached to the item to be evacuated. This area is cooled by a fan. The oil vapor rises in the column and molecules of gas diffuse into the oil before it condenses on the glass and runs into the base. There are three stages of this process with higher concentrations of molecules near the base. The neck in the side is attached to a mechanical forepump that has the ability to remove the gas. The oil is re-heated and vaporized again. The process can achieve a vacuum of 4 X 10-7 mm of mercury.

The HV-1 I have was made in 1942 and may have been the first unit ever made. It was once donated by Eimac to a museum and had a date tag.

Visit the museum at N6JV.com
Norm N6JV



Free Stuff!

By Dan Romanchik, KB6NU

I'm a sucker for free stuff. Below, you'll find links to a free transistor amplifier design program, a free printed circuit board design program, and a free tutorial on antennas. All of these look to be worth a look.

TransistorAmp 1.1

This is free software for designing bipolar transistor amplifiers. I found the link to this software (http://en.transistoramp.de/) on the AMRAD mailing list. Phil, M1GWZ, who posted the link, says, "A transistor circuit that I'm developing needed a 5x voltage gain stage. I could have thrown in a single op amp with split power rails and all that DIL8 real estate, but a single transistor stage would suffice. Trouble is, I'm an EE by inclination, not training, and all those calculations - working out those capacitor reactance values - well, I don't do them often enough for them to be easy. And I want voltage gain, not current. And then I found Transistor Amp 1.1."

"It's a nice piece of software," says Phil, "It installs easily and did the job for me quickly and easily. Oh, and when I built the circuit for real - voltage gain of 5x!"

[[NOTE: A screen shot of the software that you can use for the article can be found at http://www.kb6nu.com/wp-content/uploads/2014/11/specify-common-base-circuit.png.....Dan]]

Altium Circuit Maker

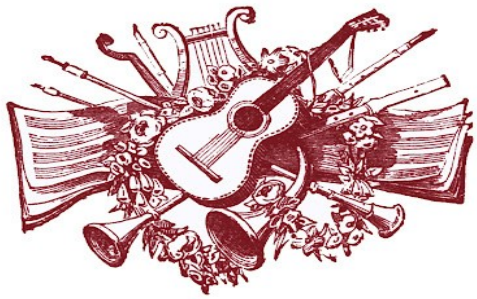
Circuit Maker (http://www.circuitmaker.com) is a free printed circuit board design tool for hobbyists, people like you and me. Maxfield Parrish of EETimes says, "one key aspect of CircuitMaker is its intuitive and easy-to-use interface -- all of the important "stuff" is presented in an easily accessible manner in a ribbon at the top of the display. to make CircuitMaker all about "Community," so users can easily share ideas and designs, comment on designs and offer suggestions for improvement, and generally help each other along the way."

Free antenna tutorial

For a limited time, Rohde & Schwartz and the IEEE Communications Society are offering a free tutorial on Antenna Basics (http://www.comsoc.org/form/tutorial-registration-antenna-basics). This tutorial explains the basic functionality of an antenna, starting with Hertz's antenna model. It also includes a short introduction to the fundamentals of wave propagation, the important general characteristics of an antenna and parameters, such as antenna gain, radiation pattern, bandwidth or VSWR. A more detailed explanation of the functionality of some selected antenna types (e.g. dipole or monopole) is also given.

Maik Reckeweg, Product Manager Antennas, Rohde & Schwarz GmbH, Munich, Germany, who is responsible for all the company's monitoring, measurement and communications antennas is the tutorial's.

The video is kind of dry, but I think Reckeweg does a pretty good job of discussing antenna basics. The video is also accompanied by a white paper that delves into these topics a little more completely. Overall, there's a bit more math than in most amateur radio discussions of antennas, but this makes the discussion a little more comprehensive.



The GEARS Newsletter Staff:
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The Radiator is a monthly publication of the Golden Empire Amateur Radio Society (GEARS). It is the policy of the Editor to publish all material submitted by the membership provided such material is in good taste, relevant to amateur radio, of interest , and space is available. **Please send all submissions to the Editor – Dorothy Post by the last day of the month through the following medium: E-mail: dj@posthouse.us**

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Club Meetings
General Meeting Third Friday 6:30 PM
Board Meeting Third Friday 9:00 PM

GEARS Club Net
Tuesdays 8:00 PM 146.850 MHz-PL 110.9

GARS Club Net:Monday, 7:00 p.m. 147.105+Mhz PL 110.0
Sacramento Valley Traffic Net
Nightly 9:00 PM 146.850 MHz-PL 110.9
ARES Nets:
Butte Mondays 8:00 p.m. 145.280 MHz-PL 110.9
Yuba Sutter Thursdays 7:00 p.m. 146.085+MHz PL 127.3
Glenn Thursday 7:30 p.m. 147.105 MHZ +PL 100.0

Other Nets:

Sac Valley Section Net—7:00 PM 2nd Wed of the month 146.085 MHz+PL 127.3

440 Wed. Night 8:00 PM Wednesday 440.650 MHz

Golden Bear 7:00 PM Daily 3975 kHz

Willie Net 8:00 PM Mondays 1930 kHz

Western Public Service System (WPSS)
Winter 5:00 – 7:30 PM 3952 kHz
Summer 6:00 – 8:30 PM 3952 kHz
ARISS *(International Space Station)* Uplink 144.490 MHz Downlink 145.800 MHz
Hope-1 satellite: all uplinks are in 145Mhz band: All downlinks are in 435Mhz band
...California Traffic Net: 3906 KHz nightly @6:00 pm For traffic listing & @6:30 p.m. for roll call.

TRIVIA OF THE MONTH

CMOS

Stands for "Complementary Metal Oxide Semiconductor."

This technology is typically used in making transistors. The "complementary" part of the term unfortunately does not mean these semiconductors are free. Instead, it refers to how they produce either a positive or negative charge. Because CMOS-based transistors only use one charge at a time, they run efficiently, using up very little power. This is because the charges can stay in one state for a long period of time, allowing the transistor to use little or no power except when needed. Because of their wonderful efficiency, processors that use CMOS-based transistors can run at extremely high speeds without getting too hot and going up in flames.

You may also find CMOS memory in your computer, which holds the date and time and other basic system settings. The low power consumption of CMOS allows the memory to be powered by a simple Lithium battery for many years.

Sunday, December 7, 2014 / February 1, 2015	**2:00 p.m.**	**VEC—Exams**	**Butte Co. Search & Rescue Building 2591 Morrow Lane, Chico**	**Tom Rider-W6JS 530 893-9211**
Wednesday December 10, 2014	**7:00 p.m. . Christmas Potluck Meeting**	**GARS-Glenn Glenn Amateur Radio Society General Meeting, & Amateur Radio Emergency Services**	**Lutheran Church Hall: 565 Main Street Artois**	**Albert Leyva-N6YCK 530-567-5979**
Friday, December 12, 2014	**7:00 p.m.**	**OARS Oroville Amateur Radio Society General Meeting**	**St Paul's Church Parrish Hall 1430 Pine Street Oroville**	**John Hunt 530 589 4734**
Friday December 19, 2014	**7:00 p.m. Election 2015 Officers Dessert Party Gift exchange**	**GEARS Golden Empire Amateur Radio Society General Meeting**	**Butte County Search and Rescue Building 2591 Morrow Lane Chico**	**Anna Horn -kg6zoa 530-877-5939**
Friday December 26 Christmas Break no meeting	**7:00 p.m.**	**Butte Co .ARES**	**Butte County Search & Rescue Building 2591 Morrow Lane Chico, CA**	**Scott Petersen KE6VUS 530-876-1526**

Merry Christmas to All & to All a Happy New Year!